

021

ENGINEERING STATEMENT

Vacant Channel Availability Based on Final ATV Allotment Table

In May 1995 and August 1996, Philip A. Rubin & Associates, Inc. (PAR) was asked by the Critical Care Telemetry Group (CCTG) — consisting of Hewlett-Packard Company Medical Products Group, Marquette Electronics, Inc., Pacific Communications, Siemens Medical Systems, Inc., and SpaceLabs Medical, Inc. — to study the impact of the FCC's proposed advanced television (ATV) transmission plan on CCTG's proposal that biomedical telemetry devices be permitted to operate, on a Part 15 basis, on certain vacant VHF and UHF frequencies. Specifically, those studies were undertaken to determine the availability of such vacant channels for use by biomedical telemetry devices following implementation of the ATV transmission plan.

On April 21, 1997, the FCC released the Sixth Report and Order (FCC 97-115) providing the final ATV allotment plan. PAR was asked to update its previous studies using this final table of allotments.

The following criteria were used in all three studies:

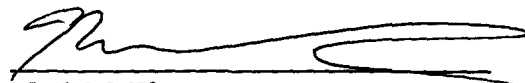
- The 20 top television markets were considered;
- A single latitude and longitude was used for each market area;
- Only channels 20 - 50 were considered, both NTSC and ATV; and
- The criteria for "availability" (*i.e.*, if a channel/station is further than 113.2 km (70.34 miles) from the market area, then that NTSC channel or allotted ATV channel are "available").

The allotment table released in August 1996 contained no reference coordinates. Therefore, that study was done by making a correspondence to the reference coordinates provided in the previous table released in May 1995. Fortunately, the Sixth Report and Order which published the final allotment table did contain reference coordinates. Accordingly, this study was able to be done using current reference coordinates.

The results of the study are listed in the attached table. For comparison purposes, the table contains the results of the August 1996 study and the results based on the April 1997 FCC allotment table.

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As reflected in the attached study, there are at least two channels available in each market area except San Francisco. In the case of San Francisco, that market area lost the one available channel it had in the August 1996 analysis.


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Attachment

VACANT CHANNEL AVAILABILITY (BETWEEN 20 - 50)

New York, New York		
August 1996	-	20 26 29 30 32 35 46 48
April 1997	-	20 26 32 34 35 46 48
Los Angeles, California		
August 1996	-	20 23 29 39 42
April 1997	-	20 21 23 25 27 29 31 33 45
Chicago, Illinois		
August 1996	-	22 24 28 30 33 34 35 36 39 40 42 45 46
April 1997	-	22 23 24 25 28 30 33 34 35 39 41 42 46 48 49
Philadelphia, Pennsylvania		
August 1996	-	20 22 27 28 33 38 41 42 44 45 47
April 1997	-	20 21 24 28 30 33 38 41 44 45 47 50
Detroit, Michigan		
August 1996	-	22 23 26 32 35 39 40 46 47 48 49
April 1997	-	22 23 26 27 32 35 47 48
Boston, Mass.		
August 1996	-	26 29 31 35 40 42 45
April 1997	-	24 26 45
San Francisco, California		
August 1996	-	46
April 1997	-	
Cleveland, Ohio		
August 1996	-	22 24 26 30 32 35 38 40 42 44 50
April 1997	-	22 24 29 35 38 40 44 48 50
Washington, DC		
August 1996	-	21 23 25 27 31 42 43 44 47 49
April 1997	-	21 23 25 31 43 44 47 49
Pittsburgh, Pennsylvania		
August 1996	-	20 23 31 32 35 39 41 44 47 48 49
April 1997	-	23 28 31 32 35 39 44 47 49
St. Louis, Missouri		
August 1996	-	20 22 23 25 27 28 29 31 32 33 36 38 39 40 42 43 44 45 49 50
April 1997	-	20 22 23 25 27 28 29 32 33 34 36 38 41 42 44 45 48 49 50
Dallas/Fort Worth, Texas		
August 1996	-	20 22 25 26 28 34 40 44 48
April 1997	-	20 22 25 26 28 34 38 44 50
Minneapolis, Minnesota		
August 1996	-	20 24 25 31 35 36 38 39 42 43 46 47 48 49
April 1997	-	20 24 25 30 31 33 36 38 39 42 43 46 47 48 49
Baltimore, Maryland		
August 1996	-	21 23 25 27 31
April 1997	-	21 25 31

(Continued)

Houston, Texas																	
August 1996	-	21	23	25	33	34	36	40	50								
April 1997	-	21	25	28	29	30	33	34	40	43	50						
Indianapolis, Indiana																	
August 1996	-	22	24	26	28	31	33	34	36	38	39	41	43	45	48	50	
April 1997	-	22	24	26	28	31	33	34	35	36	38	39	41	43	47	48	50
Cincinnati, Ohio																	
August 1996	-	21	23	25	27	32	35	36	38	40	42	44	46	47	49		
April 1997	-	20	21	23	25	27	32	36	38	40	42	46	49				
Atlanta, Georgia																	
August 1996	-	21	22	24	29	32	33	35	38	40	41	44	47	49			
April 1997	-	24	26	29	31	32	33	35	40	41	42	45	47	49	50		
Hartford, Conn.																	
August 1996	-	21	23	25	28	31	33	34	38	44							
April 1997	-	25	28	31	38	41	44	50									
Seattle/Tacoma, Washington																	
August 1996	-	21	26	29	30	31	34	36	38	40	42	46	47	48	49		
April 1997	-	21	23	24	27	29	30	34	35	40	43	46	47	49			